

A Report of the IDRC Consultants

An Evaluation Study of the
USM/IDRC Regional Library Automation
Training Programme (1987)

by

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1.0. EXECUTIVE SUMMARY

1.1 Background

1.1.1 An IDRC funded training course on library automation was conducted in April-May, 1987 for the South and Southeast Asian countries. In view of the apparent success of this training, an evaluation study of this training programme was commissioned by IDRC with the objective of supporting such a training in the next few years. (Refer 2.1 and 2.2)

1.1.2 The study is essentially a formative evaluation even though certain aspects of summative evaluation and needs assessment are also considered. Based on these considerations, it was decided that all trainers in the 1987 training course, 14 selected trainees and their immediate officers were to be interviewed personally by the consultants. Furthermore, a selected list of potential participating organisations were also interviewed as part of the needs assessment exercise. (Refer 3.2)

1.2 Trainees' Results

1.2.1 Five research instruments were designed to elicit information from the trainees. Measures of 'impact' of the training course as well as other outcome measures were constructed. Based on these measures, the following conclusions can be made:-

- a) In general, the trainees found the 1987 training course to have more than met their expectations.
- b) The trainees were particularly impressed by the quality of the teaching staff and the instructional facilities.

- c) The trainees were satisfied with the stated course objectives, course content and the instructional activities.
- d) However, the trainees found the course to be too extensive i.e. too much course content relative to the course duration.
- e) The trainees have identified a few weaknesses such as some trainers had tended to speak too fast (in English), lack of self-study periods and inflexibility in the course structure.

*too much
intensive
of duration*

(Refer 3.3.1)

1.2.2 From the on-site observations and discussions with the trainees and their officers, it can be concluded that the trainees have learnt considerable amount of system development and bibliographic processing skills. Although all of them utilised certain aspects of these skills in one or more applications, yet only a few of them had utilised these skills to a desirable extent. (Refer 4.1 and 4.2)

1.3 Trainers' Results

1.3.1 Four research instruments were designed to elicit feedback information from all the trainers. These instruments relate to the course objectives, provision of variability for student learning, performance assessment methods and overall course evaluation. (Refer 3.3.2)

1.3.2 The trainers were generally satisfied with the three major course objectives although there were some disagreement as to whether the 'computer literacy' objective should be retained as a major objective for future courses. (Refer 4.4)

1.3.3 All the trainers agreed that there was an inadequate provision of variability for student learning in the 1987 training course, and that this feature of the course curriculum is important for future courses. (Refer 4.4.2)

1.3.4 In general, the trainers considered the 1987 course programme to be acceptable with minor modifications to course content, sequencing of topics and methods of performance assessment. (Refer 4.4.4)

1.4 New IDRC-Funded Projects

Four such projects were visited by the consultants. In general, the requirements of these projects are about the same as other projects. Furthermore, their project personnel need training in computer applications development to enhance their work productivity. (Refer 4.3)

1.5 Recommendations for Changes to the Training Curriculum

1.5.1 The three objectives and the two-parts division of the 1987 training course should be retained for future courses. However, the 'computer literacy' objective is to be considered as a subsidiary one relative to the other two objectives. (Refer 5.3.2 - RG.1)

1.5.2 In general, all the lecture modules (of topics) and the course duration are to be about the same as the 1987 training course. However, certain topics in the modules have to be deleted (or

emphasized less) while additional topics on information systems management and systems study project are to be included for future courses. (Refer 5.3.2 - RG.3)

1.5.3 A certain amount of modifications is to be made to the course sequencing so that future trainees could see more clearly the relevancy of certain topics between different modules. (Refer 5.6.1)

1.5.4 Variability in the training for student learning is to be provided in the form of optional lectures (sessions), special lectures, choice of project topics, and self-study and consultancy sessions. (Refer 5.3.2 - RG.5, and 5.4)

1.6 Recommendations for Selection of Trainees

In the 1987 training course, the trainees' background characteristics were quite heterogenous and this factor reduced the effectiveness of the teaching and learning activities. Hence, it is recommended that the selection process for future trainees be improved. Specifically, the selection process should,

- a) specify the target group clearly and the prerequisites of the course;
- b) have detailed information on trainees' job and responsibility as well as on computer facilities;
- c) initiate the first official correspondence directly with the coordinator or head of the IDRC funded project;
- d) have enough time to select (or to reject) candidates using certain guidelines. (for detail see Chapter 6).

dec was dead
against it.

1.7 Recommendations for Enhancing the Infrastructure for Training

There are certain training materials and computer facilities which were not available for the 1987 training programme but are considered to be important for future courses. It is therefore recommended that,

- a) a modest fund of Canadian \$3,000 be made available to support a detailed analysis cum documentation of two information centres (i.e. one library and one documentation centre), which will be used later as case studies materials;
- b) a fund of Canadian \$3,000 (i.e. \$500 per module) to subsidize the trainers to prepare documentation for 6 modules of the teaching materials for future courses to be held here or elsewhere;
- c) a supporting grant to replace or enhance the HP3000 minicomputer system in the USM so that the MINISIS software can be used for the training and possibly as a regional centre for MINISIS training.

*computer
select
manual*

(Refer 6.3.0 and 6.4.0)

- 1.8 The detail of these results and recommendations can be found in the rest of this report.

2.0 BACKGROUND OF THE TRAINING PROGRAMME

2.1 Origin of the Programme

As a result of a request made by the International Development and Research Centre (IDRC) and after preliminary discussions of the feasibility of conducting the training programme was held in 1986, it was agreed that the USM/IDRC Regional Training Programme in Library Automation would be held at Universiti Sains Malaysia, Penang.

The objectives of the programme were:-

- a) To increase computer literacy among librarians and information scientists.
- b) To develop skills in planning library automation systems.
- c) To promote a systems approach to library and information processing problems.

Accordingly, the training programme was held from 20 April 1987 to 23 May 1987 of which there were 26 participants for the course. Five participants attended Part I and two participants attended Part II only while the rest attended both parts, except for one who fell ill midway and had to return home.

A topic oriented evaluation of the training programme was carried out at the end of the course.

2.1.1 Structure of the Training

In compliance with the objectives of the programme, the structure of the training programme was organised into two interconnected parts. The objectives of the Part I and Part II programme were respectively,

- a) To assist the managers of library and information centres to acquire some knowledge on the use of computers as well as to emphasise the planned approach to the automation of library and information centres; and
- b) To teach skills in systems analysis and design in order for them to interact effectively with computer systems personnel and assist in designing and implementing library and information systems.

This approach was adopted in view of the fact that there is a general shortage of systems and programming staff in the region, the unfamiliarity of personnel in the techniques of handling bibliographic information and the low level of expertise available in planning library automation systems.

2.1.2 Background of the Trainees

The trainees who attended the training programme were from diverse backgrounds. Broadly, they could be classified into three main groups, namely, those who had library and information experience; those who had computer expertise; and those who had neither library and information, nor computer knowledge. Many of these were from small specialised information centres, while a few were from medium-sized library, information and documentation centres.

2.1.3 Characteristics of the Programme Materials, Activities and Administrative Arrangements

The curriculum of the course was structured to meet the objectives of the training programme. The teaching learning process was conducted by means of lectures, project and work assignments, and practicals. Handouts of subject outlines and reading materials were provided. As an aid to instruction, overhead transparencies and TV monitors connected to the main microcomputer were used. Lectures and practicals were conducted in several locations, mainly at the Computer Based Instructional & Training Services Unit (COMBITS), the PC Laboratory in the School of Mathematics and Computer Science, and the Library. Sufficient time was given to the trainees to understand the basic principles and concepts of the topics taught and for them to interact with the trainers.

2.1.4 Description of the Trainees and Programme Organiser(s)

The trainers were drawn from the teaching staff of the School of Mathematics and Computer Science, and the professional staff of the Library who had significant and vast experience in their subject fields. The organiser(s) were well-equipped to handle the training programme with the provision of physical facilities, accommodation and administrative support for the

programme at an optimum level. In this way, the basic needs of the trainees were taken care of which enabled them to concentrate fully on the learning aspects of the programme.

2.2 The Evaluation Study

After the completion of the training programme and during discussions held between Mr. Lim Huck Tee, Dr. Anne Bernard and Ms. Maria Ng of IDRC towards the end of 1987, it was agreed that an evaluation study of the training programme be carried out. Dr. Chee Kim Loy and Mr. Lim Chee Hong of Universiti Sains Malaysia, Penang were commissioned to carry out the project from 7 March 1988 to 30 June 1988 with Mr. Lim Huck Tee as the project administrative coordinator of the Evaluation Study. Furthermore, Dr. Chee Kim Loy who was not a trainer in the 1987 training course was to be the study leader and he was to be assisted by Mr. Lim Chee Hong. This administrative arrangement was made so as to ensure that the evaluation study could be conducted with impartiality, and at the same time could proceed without delay in getting access to all the necessary documents for the study.

3.0 DESCRIPTION OF THE EVALUATION STUDY

3.1 Purpose of the Evaluation Study

The need for an in-depth evaluation study was raised between the coordinator of the 1987 programme and the officers of the IDRC.

The purpose of the evaluation study is to conduct a thorough study of the 1987 training programme (USM, Penang) so that a guideline can be produced to formulate a more effective library automation training course. The study is therefore essentially oriented towards a prospective and evaluative planning exercise which is intended,

- a) to provide a research-based review of the 1987 training experience;
- b) to assess the value of the training to the participants;
- c) to provide suggestions for future programme development.

Nevertheless, a certain degree of retrospective and summative evaluation of the 1987 training programme was also incorporated in the study. This is mainly because there was no detailed and relevant quantitative measures of the trainees' performance.

- 3.1.1 The audience for this evaluation study are the USM training staff who are likely to be requested to develop and implement the next course, and the IS (ASRO/SARO) and FAD programme officers of IDRC responsible for assessing the appropriateness of the new course proposal in light of identified regional needs in the areas concerned.

3.1.2 The specific issues to be addressed in the study are as follows:-

- a) relevance of the course content to the operational needs of managers and other personnel of information centres and libraries in institutions associated with IDRC activities;
- b) appropriateness and effectiveness of the teaching methods used, the sequencing and amount of course content and the overall course duration;
- c) the quality and relevance of participant or trainee selection, preparation and follow-up, particularly in terms of 'matching' course content and methods with learners' needs and expectations;
- d) the course "impact" on the participants of the 1987 training programme --- i.e. whether and how these participants have applied their newly acquired skills and knowledge in their work settings, and what are the constraints to such applications.

3.2 Evaluation Strategy

In view of the fact that this study contains elements of both summative and formative evaluation, the research strategy is somewhat unconventional. The evaluation study employs certain instruments to elicit information from,

- a) selected trainees and all trainers from the 1987 training programme;
- b) superiors of the selected trainees; and
- c) selected officers from potential organisations.

3.2.1 Personal interviews were conducted with the trainers in the USM, Penang and with the trainees and their superior officers during the site visits. Due to time constraint and limited budget, it was not possible to interview all trainees of the 1987 training programme. However, the selected trainees were purposefully sampled using the following criteria:-

- a) selected trainees to come from each of the five ASEAN countries, i.e. Malaysia, Singapore, Thailand, Philippines and Indonesia.
- b) for each country, at least one trainee who was a 'manager' and one who was a library or a data processing personnel.
- c) for each country (except Singapore), one potential organisation that would be sending a trainee for a future training course.

3.2.2 Conduct of the Field Visits

A major component of the evaluation study involved the visit of the Consultants to selected trainees of the training programme. The purpose of the visits was to acquire first hand knowledge of the views of the trainees regarding the training programme, their applications at the work site utilising the knowledge and skill acquired, and the setup of their organisations. The meeting also included getting the opinion of their superior officers about the usefulness and relevancy of the programme.

The selection of the trainees for the visits to be undertaken was based primarily on the type and size of the library or information centres, and included trainees who attended both parts of the training programme. Visits were made to the trainees from the participating countries in Southeast Asia namely, Indonesia, Malaysia, Philippines, Singapore and Thailand. The few trainees from Bangladesh, India and Sri Lanka were not visited.

In all, two separate trips were made to the region, comprising of Bangkok-Iloilo City-Quezon City from 17 April 1988 to 24 April 1988, and Jakarta-Bogor-Singapore from 1 May 1988 to 5

May 1988, while a short trip was made to Kuala Lumpur on 11 April 1988. The total number of trainees met was 14 from 11 of the institutions. In addition, the Consultants also met 5 officers who were the immediate superior or other officers in the organisation in respect of the work carried out by the trainees.

Besides the meetings with the trainees, the Consultants also held discussions with IDRC funded institutions where potential candidates for training are envisaged.

The itinerary of the various visits to the trainees and their institutions as well as IDRC funded projects is shown in Appendix 3A.

3.3 Instruments Used

3.3.1 Instruments for Selected Trainees

Five different types of instruments were used in eliciting information from the trainees during the field visits. The instruments were used during a personal interview. These instruments are:-

- a) Methods in recording work performance data (see Appendix 3B).

This is an unstructured set of questions in which information on computer facilities, computer applications and the work responsibility of the trainees were elicited. An 'impact' measure of the outcome of the training is derived from this instrument.

- b) Perception of the course objectives (see Appendix 3C).

This instrument is to record the trainee's perception relating to the learning feasibility of the course objectives. The responses provide a measure in which to consider to what extent the objectives need to be changed.

- c) Reaction towards the instructions in the course (see Appendix 4A)

This is an instrument in which trainees provide their reactions towards many important aspects of the instructional activities. These information will provide invaluable feedback to assist the evaluation team to suggest improvement to the instructional methods.

- d) Attitudes towards the training course (see Appendix 3D)

This instrument is used to develop an attitudinal scale of the trainees with respect to their feelings towards the training course. This will provide an 'outcome' measure of the training course.

- e) Trainees' course evaluation (see Appendix 4B).

This instrument provides the necessary feedback information which then can be utilised for specific and overall improvement to future training courses. The following five areas are evaluated:

- i) course content;
- ii) assignments and projects;
- iii) instructors or trainers;
- iv) training facilities; and
- v) overall assessment.

3.3.2 Instruments for Trainers

All the six principal trainers were interviewed personally.

The instruments that were used are as follows:-

- a) Evaluation of the instructional product (see Appendix 3E for detail)

This instrument is used to obtain measures pertaining to the extent of the characteristics of the instructional product in which the trainer had included in the previous course. Similiar questions were also asked as to what should be included in a future course.

- b) Identifying the instructional objectives of the course (see Appendix 3F for detail)

In this instrument, various aspects of the instructional objectives were asked.

- c) Provision for variability in the training (see Appendix 3G for detail)

In the 1987 training course, there was no provision for variability in the formal structure of the course curriculum. However, within each class, the amount of variability for student learning was left to the trainer's discretion. This aspect of variability was identified as an important feature in this type of training, considering that the course was intensive and that the students were far from homogeneous in many important characteristics.

In this instrument, the trainers' responses provided a measure of the extent of variability which was used in the previous course, and also a measure of the extent of variability which will be desirable for a future training course.

- d) Course evaluation for trainer (see Appendix 3H for detail)

Various aspects of the 1987 training course were evaluated using this instrument. The areas of evaluation were:-

- i) course objectives;
- ii) instructional events;
- iii) materials, equipment and instructional aids;
- iv) trainees activities;
- v) system study project; and
- vi) general aspect.

Measures from this evaluation provided useful feedback information for the improvement of the course.

- e) Performance assessment of trainees by trainers (see Appendix 3I for detail)

In the 1987 course, the trainees' performances were assessed in various ways by different trainers. However, these assessments were ad hoc and not quantified.

This instrument is designed to obtain relevant information concerning the performance assessment of the trainees. The intention is to assist the trainer to use better method of performance assessment for a future course.

4.0 RESULTS OF THE EVALUATION STUDY

4.1 Results of Outcome Measurements (Trainees' Attitude)

4.1.1 Trainees' Perception of the Course Objectives

Eleven trainees took part in this measurement. The result is shown in column (A) of Table 4.1.

All the respondents found the learning feasibility of the stated objectives of the training programme to be acceptable. Three of the trainees found them to be strongly acceptable while an equal number found them to be quite acceptable. The breakdown of their responses can be categorised as follow:-

Strongly acceptable	3
Acceptable	5
Tend to be acceptable	3

4.1.2 Trainees' Attitudes Towards the Training Course

The result of the attitudinal responses from 11 trainees is shown in column (B) of Table 4.1. In general, all the trainees had indicated a favourable or positive attitude towards the training. A categorisation of their responses is as follow:-

Strongly positive	3
Positive	6
Quite positive	2

4.1.3 Trainees' Reaction Towards Instruction

The eleven trainees had reacted towards the different aspects of instruction in the following ways:-

- a) most of them (i.e. 8 trainees) had found the course quite hard;
- b) all of them considered the course to be at least quite interesting and actually about half of them found it to be very interesting;
- c) most of them found the reading requirements to be sufficient but a few of them thought that not enough time was given for more reading;
- d) most of them considered the allocation of time for theory and practical assignments to be adequate;
- e) all of them had requested help during the training and the major source of assistance was required for the practical assignments.

For details of their responses to specific items, refer to Appendix 4A.

Table 4.1: Scores for Perception of Course Objectives and Attitudes Towards the Training Course

Trainees' Code (n = 11)	A. Perception of Course Objectives		B. Attitudes Towards Training Course	
	Score	Grade	Score	Grade
111	25 ^c	SA ^a	3.47 ^d	SP ^b
132	18	TA	3.34	P
141	25	SA	3.48	SP
211	18	TA	3.27	P
221	13	TA	3.07	QP
311	23	A	2.96	QP
321	29	SA	3.38	P
351	24	A	3.47	SP
411	23	A	3.24	P
431	23	A	3.23	P
511	22	A	3.33	P
Mean Score	22.1		3.29	

Note

^a The categories are,

SA: strongly acceptable (or agreeable)

A: acceptable

TA: tend to be acceptable

^b The categories are,

SP: Strongly positive

P: Positive

QP: Quite positive

^c The maximum score is 36; the larger the score the more favourable towards the objectives

^d This is the value of a attitudinal scale; the larger the positive value, the greater the positive feeling towards the course.

4.1.4 Trainees' Evaluation of the Training Course

The training course was evaluated by 13 trainees. Four major components of the course were evaluated. The detailed scores for this evaluation are shown in Appendix 4B. A summary of the results are as follows:-

4.1.4.1 Course Content

- a) The selected topics in the training course were found to be at least very good to most of the trainees. Only one trainee found it to be a fair selection.
- b) The sequence in which the topics were presented was found to be good or very good by all of them.
- c) Similarly, the technical accuracy of the information presented in the course was found to be good or better by all trainees.
- d) The level of the training course was considered to be somewhat advanced by most trainees. Only one trainee considered it to be somewhat basic.
- e) The amount of material covered in the training course was found to be too much by most trainees. ✓

4.1.4.2 Practical Work and Assignments

- a) Almost all the trainees found the practical work and assignments to be a good if not an excellent reinforcement of skills taught in class.
- b) However, the time allocated to complete them was inadequate for more than half the trainees.
- c) The practices and assignments were found to be interesting by all trainees and they were highly satisfied with the equipment provided.

4.1.4.3 Instructors

The evaluation of the instructors in the training course was also undertaken. The results are as follows:-

- a) All the trainees rated the level of knowledge of the instructors to be very good (or excellent).
- b) Furthermore, all the trainees considered the instructors' to be well prepared for the course and also were very willing to render needed assistance.
- c) Most of the trainees found the topics to be adequately covered by the instructors, and that the clarity of presentation was satisfactory.
- d) Most of the trainees found the instructor's use of relevant examples to be satisfactory.
- e) More than half of the trainees considered the delivery of the course by the instructors to be somewhat fast. ✓

4.1.4.4 Training Facility

The trainees unanimously agreed that the facilities provided for the training were good if not excellent. They were extremely satisfied with the administrative support, the teaching environment and the physical infrastructure.

4.1.4.5 Overall Evaluation

With one exception, all the other trainees found the course to have more than met their initial expectations. Furthermore, they all would recommend this course to others like them. Additional comments are provided in Appendix 4C.

4.2 Observational Assessment of the Extent of Utilisation of Acquired Skills by Trainees

4.2.1 The utilisation of the acquired skills by the trainees is an important 'impact' measure of the training programme. The estimated amount of acquired skills and their subsequent utilisation by the selected trainees are shown in Table 4.2. In this table, the trainees are categorised by certain characteristics such as,

- a) the type of work organisation in which they work;
- b) the job position of the trainee in the above work organisation;
- c) the type of computer facilities which are available; and
- d) the length of experience in using computer-based softwares for library or information retrieval applications.

These characteristics of the trainees and their work place are considered to be possible factors which determine the extent of utilisation of the acquired skills.

Table 4.2: Basic Trainees' Characteristics and Observational Assessment on Trainees' Acquired Skills and their Utilisation

Trainees' Code	Characteristics of Trainees and Work Organisation ^a				Observational Assessment ^b	
	Work Org. Type (A)	Trainee's Position (B)	Computer Facility (C)	Experience in Applications (D)	Amt. of Useful Skills (E)	Application Useful Skills (F)
111	S	S	MI	N	D	B
122	D	L	MN	N	C	B
132	D	L	MI	L	D	C
141	D	D	MN	M	E	B
211	S	D	MN	L	E	D
221	S	L	MN	N	D	E
311	S	D	MI	N	C	B
321	L	L	MI	N	C	C
332	D	L	MN	M	C	B
341	D	D	MN	M	D	B
411	D	L	MI	L	D	A
422	L	L	MI	L	C	C
431	L	D	MN	L	C	C
511	L	L	MI	L	C	A

a,b

[For notation, see next page]

Notation

Factors to be considered in work site observational assessment.

A. Work Organisational Type

- A.1 Large library (L)
- A.2 Documentation/information centres (D)
- A.3 Specialised information centres (S)

B. Participant's Position in Organisation

- B.1 Library/information science specialist (L)
- B.2 Data processing personnel (D)
- B.3 Others (e.g. subject or field specialist, operations personnel) (S)

C. Availability of Computer Facility

- C.1 Minicomputer and microcomputer (MN)
- C.2 Microcomputer only (MI)

D. Experience in Using Computer Based Library/Information Retrieval Software Package

- D.1 More than 1 year (M)
- D.2 About 1 year (L)
- D.3 Little or more (N)

E. The estimated amount of acquired useful skills were rated as follows:-

- | | | | | |
|--------|----------|--------|---------------|---------|
| A | B | C | D | E |
| (None) | (Little) | (Fair) | (Quite a lot) | (A lot) |

F. The estimated amount of acquired useful skill which had been applied were rated as in E above.

4.2.2 Based on Table 4.2, the distributions of the amount of acquired skills and the estimated extent of utilisation of these skills are as follows:

Table 4.3: Distribution of Responses Based on Acquired Skills and Their Utilisation

<u>Frequency of Responses</u>		
<u>Category</u>	<u>Amount of Acquired Skills</u>	<u>Extent of Utilisation</u>
None	0	0
Little	0	2
Fair	5	6
Quite a lot	6	3
A lot	2	2
<hr/>		
Total	13	13
<hr/>		

It is clear that all trainees had acquired a fair amount of useful skills. In fact, it was estimated that more than half of them had acquired considerable amount of such skills. On the other hand, the degree of utilisation of these skills did not match the extent of their acquisition. Indeed, some of them did not utilise these acquired skills very much.

4.2.3 First, we look at trainees who had access to the use of minicomputer. Only two trainees (code 211 and 221) who came from the same organisation had utilised their skills quite extensively. It is instructive to compare this successful utilisation of acquired skills with two other trainees (code 332 and 341) who had similar characteristics but in a different organisation (and also from a different country).

In this latter instance, the two trainees did not use their skills very much. The possible reasons are as follows:-

- a) They appeared not to be motivated in applying the skills to areas of computer applications even though they had a few years in using library softwares.
- b) They had problems in utilising the minicomputer which was quite unreliable and furthermore, there was no current contract for computer maintenance. SEAF
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- c) They had decided to use the microcomputer for future work and were facing technical problems in the software conversion tasks.

Other trainees which faced similar problems were trainee code 122, 141 and 431. All encountered problems in using the minicomputer which were mainly due to lack of maintenance or lack of access.

It therefore appeared that having a minicomputer which was technologically dated and which required considerable amount of money for annual maintenance was a contributing factor to poor utilisation of acquired skills by some of these trainees.

4.2.4 Next, we look at those trainees who had access only to microcomputer facility. Most of these trainees had utilised their acquired skills to a considerable extent. Only two trainees did not use their acquired skills very much.

One of them did not have much say in the usage of the computer and her current job had little connection with computerisation. The other trainee appeared to have lack initiative in applying such skills to his work even though considerable amount of potential applications could be identified.

4.3 Observational Assessment of Potential Participating Organisations

4.3.1 We were able to meet four organisations which have IDRC funded projects and are likely to send potential trainees for training. These are,

- a) the Provincial Waterworks Authority "PWA" (Thailand).
- b) the Marine Sciences Institute (Philippines).
- c) the Direktorat CIPTA KARYA (Indonesia).
- d) the Consumers' Association of Penang (Malaysia).

All these four organisations definitely need computer training for their personnel with respect to the IDRC funded projects. Their requirements however were slightly different. Organisation (a) and (c) appeared to have similiar requirements as compared with organisation (b) and (d).

4.3.2 All four organisations do require training in information science applications but organisation (a) and (c) also require data systems applications. This is particularly so for the Provincial Waterworks Authority which will be handling large amount of operational data and records as well as specialised bibliography. The Direktorat CIPTA KARYA has a similiar project like the PWA but their information systems requirements are more modest. In fact, they are only interested in developing and maintaining a centralised bibliographic database.

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True

4.3.3 The Marine Sciences Institute has all the necessary computer equipment for information processing as well as for publication. However, their personnel require training at all levels, i.e. from operational to management activities.

Their major applications are:-

- a) specialised bibliographic database on seaweeds;
- b) database on their herbarium on seaweeds;
- c) cataloguing of the library collection.

4.3.4 The Consumers' Association of Penang is a fairly large NGO and has many extensive activities in the area of research, report and newsletter production, and consumer education. They have a fairly large library collection. They do not have adequate computer facility (in fact only one microcomputer was recently purchased).

Their personnel require training at all levels, and the potential computer applications are,

- a) library automation;
- b) specialised bibliographic database on common drugs (regional or international network); and
- c) office automation.

4.4 Results from Trainers' Interviews

4.4.1 Evaluation of the Instructional Product

Based on the responses of the six trainers, the following conclusions can be drawn with respect to the internal characteristics of the instructional materials and activities in the 1987 training course. (see Table 4.4)

- a) In general, the materials used and activities conducted in the 1987 course were found to be about just enough. However, there were distinct variations in the trainers responses.
- b) For future training courses, the desired amount of instructional materials and activities will be just a little additional amount relative to that of the 1987 course. The desired amount is fairly consistent for all the trainers.
- c) The specific characteristics of the instructional product which were found to be insufficient by most trainers are:-
 - i) prerequisite skills and knowledge for entry into the product;
 - ii) provision for a well-prepared trainee to enter the course at some place other than the beginning; and
 - iii) provision for remedial learning for weak trainees.

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This list of three specific characteristics is all related to the provision of variability for student learning, and this matter is discussed further in the following sections.

Table 4.4: Mean Score of the Evaluation of Instructional Product and of Provision for Variability

Staff No.	Evaluation of the Instructional Product		Provision for Variability in the Training	
	Actual	Desired	Actual	Desired
1	2.7	3.3	2.8	3.6
2	2.4	3.3	1.3	3.0
3	2.4	3.6	2.0	4.0
4	3.3	3.5	3.3	3.2
5	3.5	3.6	3.2	3.5
6	-	-	2.5	3.1
Combined	2.86	3.46	2.52	3.40

Note: The scores for the questions in these two instruments are as follows:-

1	2	3	4	5
Very Little	Little	Just Enough	Much	Very Much

4.4.2 Provision for Variability in the Training

Six trainers gave responses to an instrument in which questions were asked as to the actual and desired provision for variability for student learning. The results are shown in Table 4.4. In general, the provision for variability was not enough in the 1987 training course, even though there was no consensus among the trainers. For future training courses, a fair amount of additional variability is desirable.

The specific aspects of the instructional variability which were mentioned by most trainers are:-

- i) prior proficiencies in computer skills;
- ii) English language proficiency;
- iii) level of knowledge, understanding and attitude; and
- iv) interpersonal communication skills.

4.4.3 Performance Assessment in the Training

All trainers agreed that there was a need to evaluate the trainees' performance in a training programme. The reasons are:-

- a) to make sure they had understood the concepts taught in class;
- b) to assess the extent in which the trainees had acquired the skills taught in class (e.g. designing a system).

All the trainers provided some form of performance testing, but some of these were not graded in a quantitative manner. The types of assessments were:-

- a) multiple-choice
- b) design problems
- c) written report
- d) role playing

Most trainers agreed that the amount of performance assessment was inadequate in the 1987 training course. Suggestions for improvement in this area are:-

- a) design more multiple-choice questions to be used as performance testing;
- b) conduct periodic self-assessments using (a); and
- c) conduct assessment for each module of the training course.

4.4.4 Course Evaluation by Trainers

In general, the major features of 1987 training programme were found to be acceptable by all trainers. Nevertheless, there were certain areas of deficiencies which had been identified. These are,

- a) course content need to be phrased in simpler language (whenever possible);
- b) course objectives need some minor adjustments to reflect different competencies of the trainees;
- c) there should be more self-study breaks;
- d) the audio visual aids should be used more frequently;
- e) simulated exercises and relevant case studies should be used more frequently;
- f) the prerequisite knowledge and skills required of trainees must be properly conveyed to participating organisations.

5.0 A REVIEW OF THE TRAINING CURRICULUM AND ITS
RECOMMENDATIONS

5.1.0 The 1987 Training Curriculum: A Review

5.1.1 In the 1987 training programme, the topics in the curriculum for the Part I training were designed to be complementary to that of Part II, even though each of the two parts could be considered as a separate training course. In the Part I training course, one week was allocated in which about 20 sessions (or classes) were held and they took about 27 contact hours (i.e. formal classroom interaction between trainers and trainees).

About 1/6 of the contact hours were spent on selected managerial issues pertaining to library automation, and another 1/6 on introductory lectures on information technologies. About 1/3 were given to lectures and hands-on experience with microcomputers, and another 1/3 to introduction to selected library softwares. (see Table 5.1A)

Table 5.1A: Distribution of Sessions and Duration for Topics under the 1987 Training Programme: Part I

Course Topics	No. of Sessions	No. of Hours	Percent of Total Hours
<u>Part I</u>			
1.1 Library automation: managerial issues	4	4.5	16.7
1.2 Introduction to information technology	4	4.5	16.7
1.3 Practice with microcomputers (and softwares)	6	9.0	33.3
1.4 Library applications' softwares	6	9.0	33.3
Total	20	27.0	100.0

Table 5.1B: Distribution of Sessions and Duration for Topics under the 1987 Training Programme: Part II

Course Topics	No. of Sessions	No. of Hours	Percent of Total Hours
<u>Part II</u>			
2.1 Introduction to programming/ database (using dBASE III)	8	24.0	22.8
2.2 Introduction to system analysis/design	24	28.0	26.7
2.3 System study project	2 1/2 days	15.0	14.3
2.4 Bibliographic formats (using MARC) and information exchange	7	11.0	10.5
2.5 Theory and practice in biblio- graphic database design	2 1/2 days	15.0	14.3
2.6 Introduction to information retrieval and external databases	4	7.0	6.7
2.7 Presentation by vendors of integrated library system	1 day	6.0	5.7
Total		105.0	100.0

The Part II training course lasted 4 weeks involving about 105 contact hours between trainers and trainees. About 2/3 of these hours were spent on programming, database concepts, system analysis (and design) and the systems study project. The other 1/3 of the hours were allocated to bibliographic structure and design, information retrieval concepts and related demonstrations. (see Table 5.1B)

- 5.1.2 In the Part I training course, the topics were grouped into 4 basic modules and these were sequenced as indicated in Figure 5.1A. The rationale was to introduce certain topics on issues pertaining to library automation and on elements of information technology. These topics were then supplemented with a 'computer literacy' module involving the use of microcomputer. Finally, two microcomputer bibliographic database softwares and a mainframe integrated library software were introduced.

Figure 5.1A: The Sequencing of the Topics in the 1987 Part I Training Course

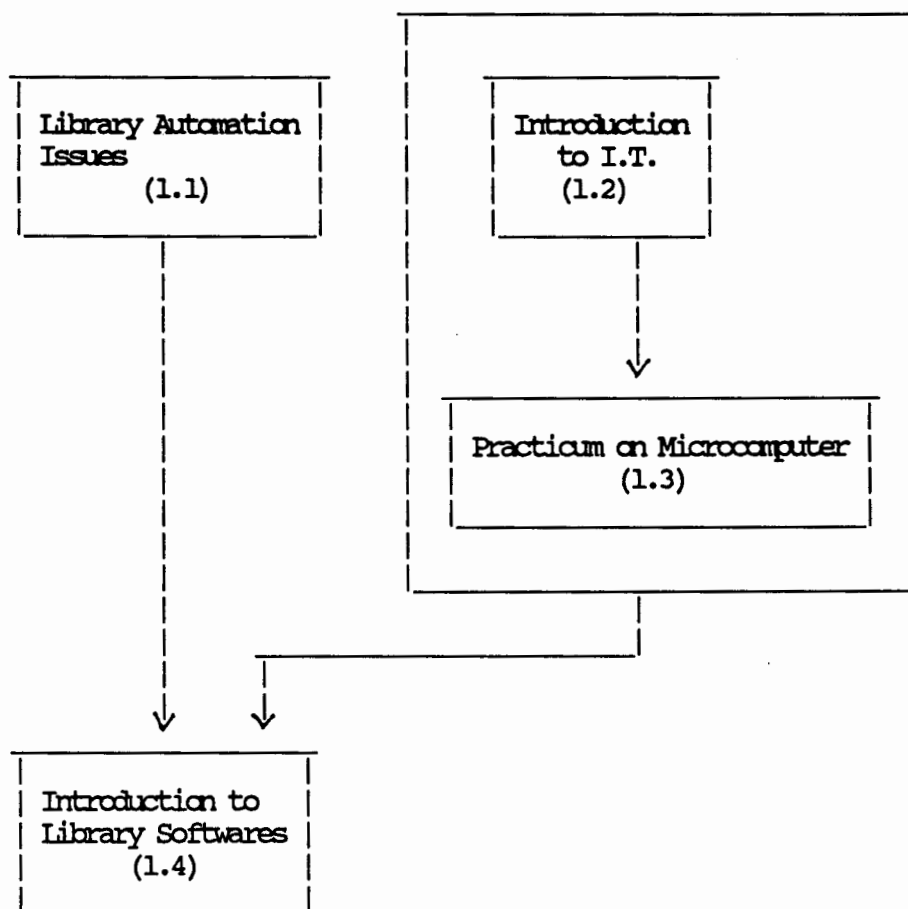
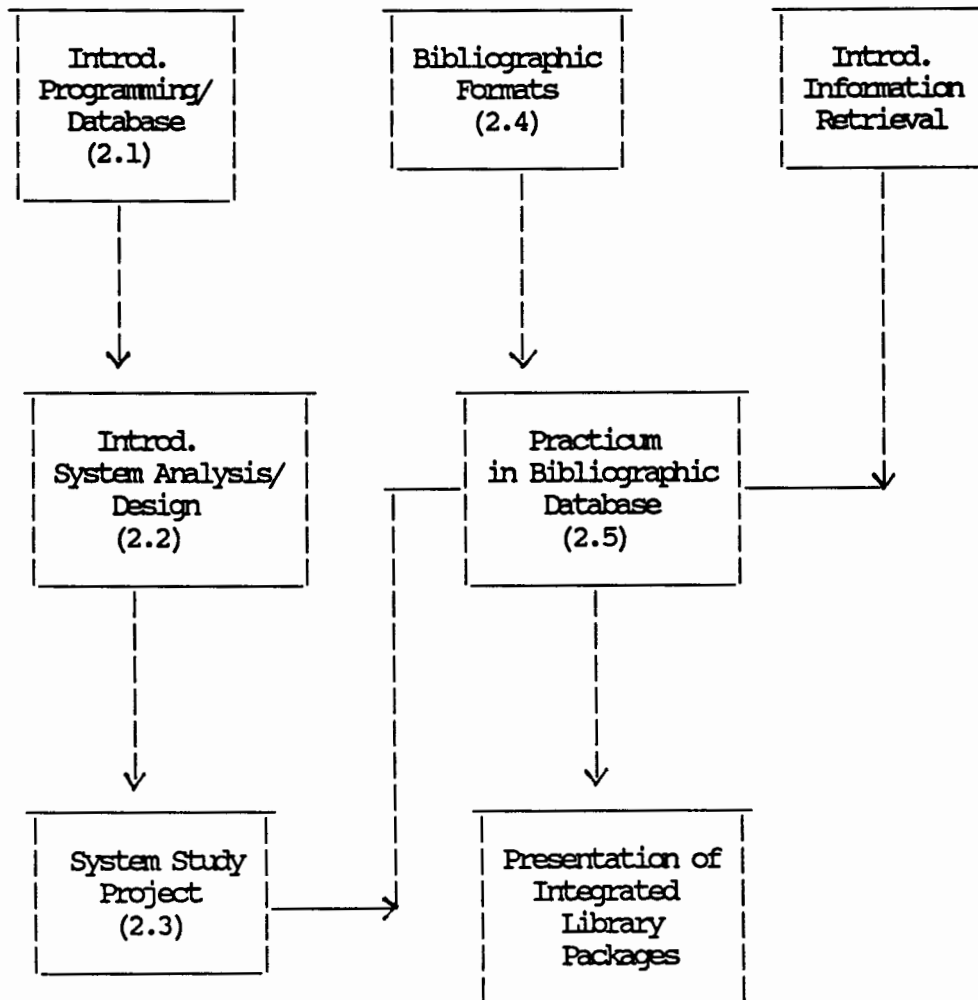


Figure 5.1B: The Sequencing of the Topics in the 1987 Part II Training Course



5.1.3 In the Part II training course, the topics were grouped into 5 basic modules as follows:-

- a) Introduction to programming and database concepts;
- b) Elements of system analysis and design;
- c) A system study project which was a practical workshop for module (b);
- d) Introduction to bibliographic formats especially MARC record; and
- e) Bibliographic database design.

5.2.0 Strength and Weaknesses of the Curriculum in the 1987 Training Programme

5.2.1 The Programme's Strength

All the modules were necessary and relevant to the achievement of the three objectives of the programme. The sequencing of the modules and their individual topics were logical, and were conducive to effective learning by the trainees. The duration of the two training courses were appropriate, given the objectives and the characteristics of the trainees. However, there were certain weaknesses which if rectified would greatly enhance the effectiveness of the training programme.

5.2.2 The Programme's Weaknesses

The weaknesses in the programme can be described at three levels:

- . the programme's goals,
- . the content of the topics (or modules),
- . the sequencing of certain major modules.

5.2.3 Firstly, the programme implicitly gave equal priority to the three major goals (or objectives); computer literacy, system approach, and technique and skills at developing bibliographic databases. However, there were only two distinct training courses in the programme and this had led to a certain degree of misunderstanding among some of the trainers. As a result, the sequencing of certain topics between modules was somewhat loose. In particular, the following points were noted.

- a) In the Part II course, there was too much emphasis on learning to programme using dBase III when the original objective of the module was to use dBase III (being a popular microcomputer database management system) to demonstrate database as well as programming concepts.
- b) In the Part I course, there were too few topics on managerial issues pertaining to the managing of computer-based applications or information system. On the other hand, a considerable amount of time was spent on learning how to use a few microcomputer applications within a short time. As a result, this did not satisfy the requirements of trainees, who either;
 - i) had looked forward to an opportunity to learn and discuss information systems management issues; or,
 - ii) had looked forward to be a reasonable competent computer user after the training.
- c) The Part II course implicitly required a prerequisite computer skill but this was not fully considered in the curriculum of the Part I course. As a result, certain trainees were quite at a loss when they tried to follow the Part II course.

5.2.4 Secondly, there were certain topics in a few modules which covered specialised or advanced techniques which were not very useful to most trainees in the immediate future. This was mainly because there was no need for most trainees to develop complicated computer applications and therefore they only need specialised assistance and skills from the training programme.

Some of these advanced topics were:-

- a) Advanced programming techniques;
- b) Detailed system design technique;
- c) Structured English;
- d) PERT and CPM.

5.2.5 Thirdly, there were topics in which their contents could be improved to effect greater coherency and relevancy to the training courses. Examples of these were,

- a) The case studies which were used in the programming and system analysis/design modules were illustrations to serve merely the particular topic(s). They were not designed to assist the trainees to see the relevancy of the diverse concepts from different modules.
- b) The module on systems study project was found to be an extremely useful one by the trainees. Unfortunately, it was sequenced to be an activity as a follow up to system analysis and programming only. Its usefulness would be greatly enhanced if the scope of the project were to cover the topics in the bibliographic design module as well. This would also provide an opportunity for trainees to use their own work situation as a study project which would increase the payoffs to the trainees.

5.3.0 General Recommendations for Curriculum Changes

5.3.1 Certain changes in the curriculum are necessary in order to strengthen the training programme. The proposed changes have considered the following points:-

- a) the identified weaknesses and strength in the 1987 training curriculum;
- b) the degree of flexibility in choosing the type and composition of future trainees; → ?
- c) the limited operational cost of the training;
- d) the availability of training resources in USM;
- e) the viewpoints which had been considered by the trainees and trainers.

5.3.2 General Recommendations

RG.1 The three major objectives of the 1987 programme should be retained. However, the objectives on computer literacy should be viewed as of lesser importance than that of "system approach" towards computer applications and of acquiring useful skills and techniques for developing and implementing information services applications.

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RG.2 The Part I and Part II training programmes should continue to be considered as self-contained (i.e. as a separate training programme) to meet the requirements of their respective target groups.

RG.3 All the major components of the Part I and Part II training programme are to be retained subject to certain modifications to be described later under specific recommendations.

RG.4 The duration for the two training programmes (i.e. 1 week for Part I programme and 4 weeks for Part II programme) be maintained subject to minor modifications which will be described later in specific recommendations.

RG.5 In view of the expectation that future trainees will come with varying level of qualifications, skills and experiences, future training programmes should have provisions for "variability" in the curriculum. In particular, effort should be made to provide,

- a) optional tutorial sessions to meet individual inadequacies;
- b) additional tutorial sessions for certain trainees in Part I programme who need to fulfil the prerequisite requirements for Part II programme;
- c) availability of self-study periods cum private consultation sessions with trainers.

RG.6 In view of the different level of English proficiencies among the trainees, it is essential that trainers should not speak too fast to the trainees. The trainers should also explain in greater depth some of the technical or abstract terms used in the classes.

RG.7 A course evaluation should be implemented separately for the Part I and the Part II courses, so that valuable feedback, could be obtained to improve subsequent programmes.

RG.8 For each major module, an attempt must be made to formalise some types of performance assessment of the trainees. The specific type of performance evaluation should be the responsibility of the programme coordinator and his trainers.

5.4.0 Specific Recommendations for Part I Training Programme

RI.1 The major objective of the Part I training programme should be to educate the administrator (or manager) of an information service unit to adopt a systematic approach towards the development and implementation of computer-based applications. In this respect, the computer literacy's objective is a necessary but a subsidiary objective in this programme.

RI.2 More topics on managerial issues on information systems development should be incorporated as compared with the 1987 training programme.

RI.3 Optional tutorial sessions or seminars with a total duration of 6 hours should be made available for trainees who need,

EITHER

exposure to basic concepts and hands-on experience with computers

OR

more in-depth discussions on information systems management.

RI.4 An extra day of tutorials in microcomputer applications for trainees who would be following the Part II training programme and who have inadequate skills in using computers.

RI.5 Trainees should be exposed to different levels of system complexity. Hence, library softwares should be introduced at three levels, i.e. microcomputer, minicomputer and mainframe computer level. In this regard, CDS/ISIS, MINISIS and DOBIS/LIBIS applications are recommended because of either wide usage or availability of these softwares in USM.

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RI.6 The topics on information and related technologies should be relevant to the practical aspects of the information services activities, i.e. from data acquisition to document production. Hence, topics on office networking and desk top publishing technology should also be included.

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5.5.0 Specific Recommendations for Part II Training Programme

RII.1 Relative to the 1987 training programme, about 10 percent of the total training hours from the system analysis/design and programming topics are to be taken out and given to the other components of the training (i.e. system study projects and development of bibliographic databases).

RII.2 Case studies which are to be used in the training programme should be related to applications for information centres or libraries.

RII.3 The system study project should be extended to cover all phases of system analysis and bibliographic design. In this regard, two interrelated system study projects should be given, one covering the system analysis aspect and the other emphasising the design aspect.

RII.4 Trainees should be recommended to use their own case studies in the system study projects so as to maximise the opportunity to resolve any technical difficulties which they have had encountered in their work.

RII.5 A complete set of documented case studies for a small information centre and another one for a large library application should be given to trainees as a guide for their system study projects as well as for future reference materials.

5.6.0 The Proposed Curriculum for Future Training Programme

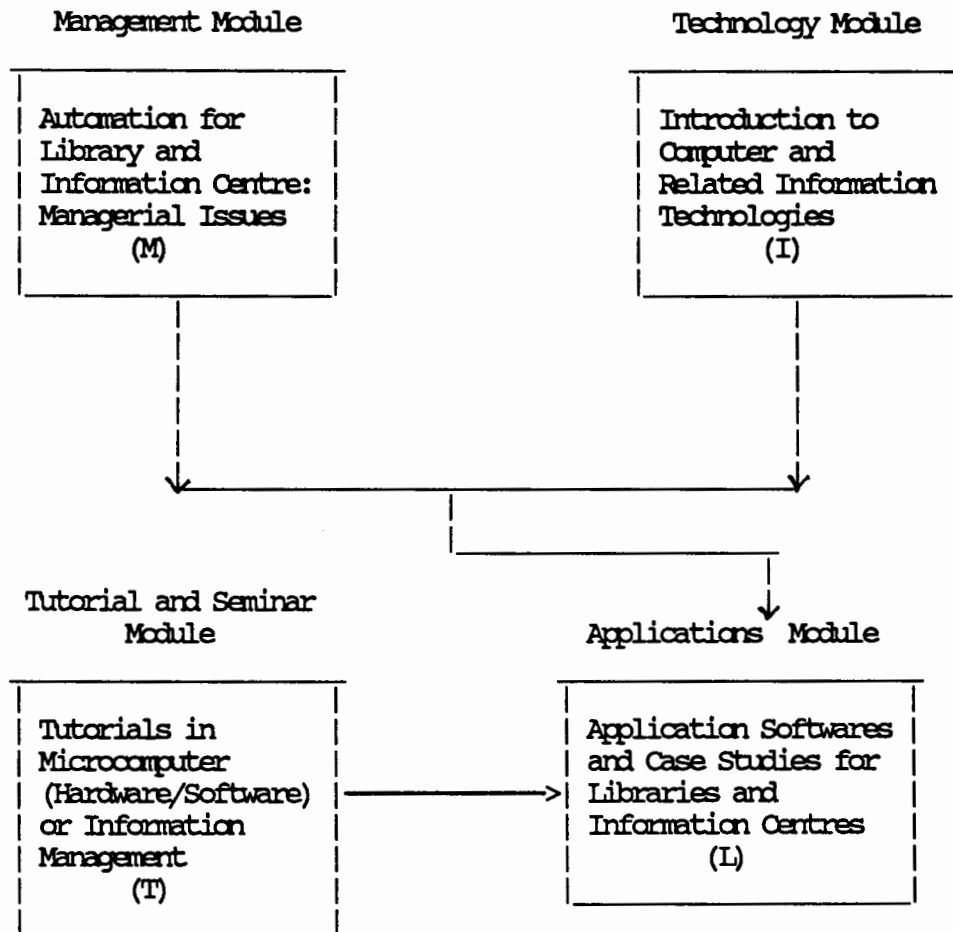
5.6.1 Based on the above curriculum review and the set of recommendations, a proposed curriculum has been designed. The proposed topics are organised under different modules within Part I and Part II of the training course.

The sequencing of the modules (or topics) for the Part I and the Part II training course are shown in Figure 5.3 and Figure 5.4 respectively. These are accompanied by the listing of the individual topics together with the suggested duration (in hours).

5.6.2 An overall comparison between the 1987 and the proposed curriculum in terms of the type and distribution of topics is shown in Table 5.2A (for Part I course) and Table 5.2B (for Part II course).

Basically, there is not much difference in the total number of hours and the type of topics between the 1987 and the proposed programme. However, a slightly less emphasis on computer literacy and system analysis technique topics is clearly indicated. This is compensated by more emphasis on the bibliographic and related topics as well as on the system study project.

Figure 5.2: Proposed Sequencing of the Topic Modules for Future Training Courses: Part I



<u>Key</u>	<u>Topic</u>	<u>Duration</u> (in hours)
<u>I. Introductory Lecture to the Part I Programme</u>		
K.	Information technology and the management of information centres and libraries: an overview	1 1/2
<u>II. Management Module</u>		
M1	The systems approach to planning in computerised applications for information centres and libraries	1 1/2
M2	The system development life cycle of an information system: an overview	1 1/4
M3	Project planning and control: an introduction	1 1/4
M4	A guideline towards evaluation of a computer system	1 1/4
M5	Managing changes in information technology and its impact on work productivity of information services	1 1/4
<u>III. Technology Module</u>		
I1	Trend in computer and related information technology	1 1/4
I2	An introduction to data communication technology	1 1/4
I3	Office automation technology: an overview	1 1/4
I4	Networking technology	1 1/4
<u>IV. Applications Module</u>		
L1	Application softwares for information centres and libraries: an overview	1 1/4
L2	Introduction to CDS/ISIS (microcomputer-based software)	1 1/4
L3	Practical workshop on CDS/ISIS	1 1/4
L4	Introduction to MINISIS (minicomputer-based software)	1 1/4
L5	Practical workshop on MINISIS	1 1/2
L6	Introduction to DOBIS/LIBIS (mainframe-based software)	1 1/4
L7	Practical workshop on DOBIS/LIBIS	1 1/4
E	An evaluation of the training programme	1

V. Tutorial and Seminar Sessions Module (either A or B)

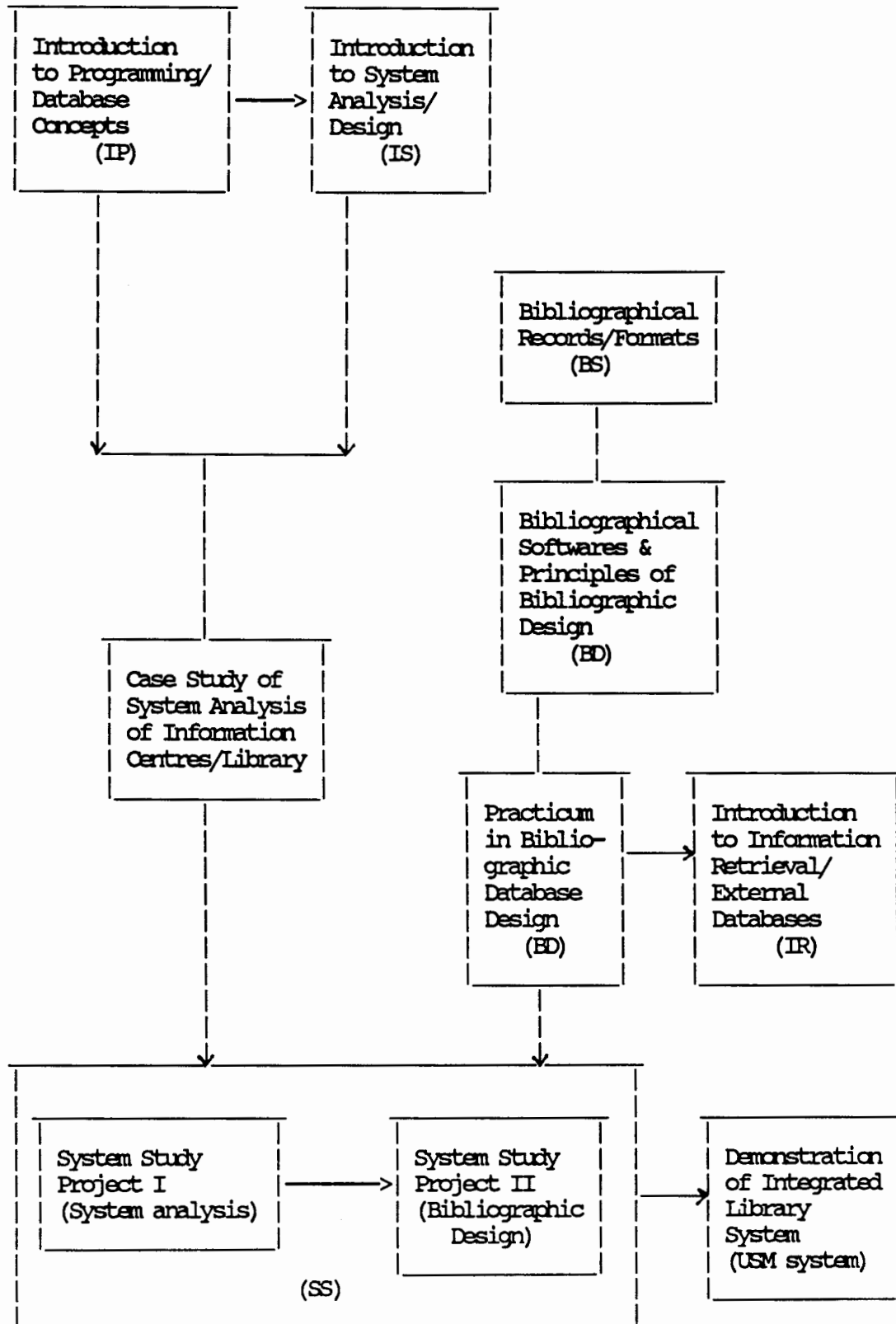
A. Introduction to Microcomputer

<u>Key</u>	<u>Topic</u>	<u>Duration</u> (in hours)
T1	Introduction to personnel computer (Hardware/ operating system)	1 1/2
T2	Practical session on T1	1 1/2
T3	Introduction to PC softwares (file management)	1 1/2
T4	Practical session on T3	1 1/2
T7	Optional tutorials on microcomputer applications	6

B. Information Technology and Management

T5	Practical issues in SDLC (a seminar)	3
T6	Practical issues in systems evaluation and managing computer facilities (a seminar)	3

Figure 5.3: Proposed Sequencing of the Topic Modules for Future Training Courses: Part II



Part II: Course Listing and Duration

A. Introductory Lecture to the Part II Programme

<u>Key</u>	<u>Topic</u>	<u>Duration</u> (in hours)
K	Practical issues in the development and implementation of an information system for libraries and information centres	1 1/2

B. System Analysis and Design Module

<u>Key</u>	<u>Topic</u>	<u>Duration</u> (in hours)
IS1	Introduction to the concept of system development life cycle (SDLC)	1 1/2
IS2	Feasibility study and introduction to the analysis phase of SDLC	3 1/2
IS3	Analysis (Dataflow diagrams)	3 1/2
IS4	Analysis (System flowcharts)	3 1/2
IS5	Analysis (Data dictionary)	2 1/2
IS6	Analysis (Decision trees/tables)	2 1/2
IS7	Introduction to system design and prototyping	2 1/2
IS8	Project planning and control	2 1/2
IS9	Case study of system analysis and design of an application for an information centre or a library	2 1/2

C. Programming and Database Module

<u>Key</u>	<u>Topic</u>	<u>Duration</u> (in hours)
IP1	Introduction to programming concepts and file management	3
IP2	Database concepts and design (using dBase III)	3
IP3	Database creation	3
IP4	Case study	3
IP5	Introduction to dBase III programming	3
IP6	Programme creation and testing	3
IP7	Case study (library/information centre's application)	3

D. Systems Study Project Module

<u>Key</u>	<u>Topic</u>	<u>Duration</u>
SS1	Systems study project: Briefings	1 day
SS2	Systems study project: Practical work (Analysis)	1 day
SS3	Systems study project: Report preparation (Independent study)	2 days
SS4	Systems study project: Presentation	1 day
SS5	Systems study project: Practical work (Design)	1 day
SS6	Systems study project: Report preparation	1 day
SS7	Systems study project: Presentation	1 day

E. Bibliographic Design and Information Retrieval Module

<u>Key</u>	<u>Topic</u>	<u>Duration</u> (in hours)
BS1	Bibliographic record/bibliographic formats for computer processing	1 1/2
BS2	Structure of a MARC record	1
BS3	Practical work: Inputting records in MARC format	4
BS4	Creating of MARC records	2
BS5	Processing of MARC records	2
BD1	Centralised vs decentralised/ Distributed processing/Mechanics of information exchange	2
BD2	Designing bibliographic databases	1 1/2
BD3	Practical work in bibliographic database design, using CDS/ISIS and MINISTIS	12
IR1	Information storage and retrieval theory	1 1/2
IR2	Fundamentals of telecommunications	1 1/2
IR3	Profile building for searching databases	1
IR4	On-line information retrieval: DIALOG	2
E	Course evaluation and discussion	1

Table 5.2A: Distribution of Sessions and Duration for Topics under the Proposed Training Programme: Part I

Course Topics	Proposed Programme			1987 Programme
	No. of Sessions	No. of Hours	Percent of Total Hrs	Percent of Total Hours
			(28)	(27)
<u>Part I</u>				
1.1 Automation for libraries and information centres: a managerial perspective	6	8.0	28.6	16.7
1.2 Introduction to computer and related information technologies	4	5.0	17.9	16.7
1.3 Application softwares for library/ information centres	7	9.0	32.1	33.3
1.4 Tutorials on microcomputer system or Tutorials on practical issues on information systems management	6] 6]	6.0	21.4	33.3
1.5 Optional tutorial on microcomputer applications	1	(6.0)		
Total		28 (34)	100.0	100.0

Table 5.2B: Distribution of Sessions and Duration for Topics under the Proposed Training Programme: Part II

Course Topics	Proposed Programme			1987 Programme
	No. of Sessions	No. of Hours	Percent of Total Hrs	Percent of Total Hours
			(108)	(105)
<u>Part II</u>				
2.1 Introduction to programming and database concept	7	21	19.4	22.8
2.2 Introduction to system analysis and design	8	21	19.4	26.7
2.3 System study project (Analysis)	3 days	18	16.7	14.3
2.4 System study project (Bibliographic design)	2 days	12	11.1	-
2.5 Bibliographic format and structure	5	11	10.2	10.5
2.6 Introduction to bibliographic database design	2	3	2.8)	14.3
)	
)	
2.7 Using CDS/ISIS for MINISIS for bibliographic design	2 days	13	12.0)	
2.8 Principle of information retrieval and practical work	4	6	5.6	6.7
2.9 Case study of an integrated library system (USM)	1/2 day	3	2.8	5.7
Total		108	100.0	100.0

6.0 RECOMMENDATIONS FOR SELECTION OF TRAINEES AND
ADDITIONAL INFRASTRUCTURE FOR TRAINING

6.1.0 Introduction

6.1.1 In the 1987 training programme, it was observed that there were considerable differences between the trainees in terms of their qualifications, skills and work positions. This unexpected characteristics of trainees had posed quite a problem to the programme coordinator who had to ensure that the curriculum content, format and sequencing would be suitable for the trainees. It was felt that if the trainees were more alike in certain important basic characteristics, the effectiveness of the training programme would be considerably enhanced. Admittedly, there were administrative and 'political' difficulties in the final choice of appropriate trainees. Nevertheless, it is our considered opinion that a little improvement in the selection of the 'right' trainees would have a large pay-off.

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6.1.2 Another issue which is related to the proposed changes to the curriculum (see Chapter 5), is that some training materials and computer facility which were not available in the 1987 training will be required for the proposed future training programmes. Specifically, these are:-

- a) materials of documented case studies of information centres and library applications are extremely useful supplements for the training; in this respect, a modest funding for this task is required.
- b) the bibliographic database software for the HP3000 series minicomputer, i.e. MINISIS, was not used in the 1987 training; it was felt that in view of its widespread use, this software and its applications should be made available for future training programmes.

6.2 Review of Past Trainees' Characteristics and Recommendation of Procedure for Selection of Future Trainees

6.2.1 Profile of Trainees

The trainees of the 1987 training programme were quite a heterogenous group in terms of their academic qualifications, job positions, level of computer literacy and English language proficiencies. As shown in Table 6.1, among the 31 trainees, about equal number of the trainees had tertiary education in either library science or other disciplines. However, four of them did not have tertiary education at all, while two of them had computer science degrees.

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About 30 percent of the trainees were actually heads of the libraries or information centres. A similiar percentage of them were directly involved in library or information services. About 16 percent were actually project officers with partial responsibility for information services. The rest of them (about 23%) were involved in computer processing which support the information services either partially or entirely.

The level of computer literacy of these trainees prior to their training depended on their formal academic training as well as their on-the-job training experiences. About 45 percent of them had quite a lot of experience with using computers. On the other hand, about 30 percent of them had none or minimal computer experiences.

As for their proficiencies in the English language (written and verbal), about 16 percent of them were quite poor. Furthermore, even those with average level of proficiency did have problems in oral communication.

Table 6.1: Distribution of Trainees by Selected Characteristics

<u>Characteristics</u>	<u>Number</u>	<u>Percentage</u>
A. Academic or Professional Qualification		
Library science	12	39
Computer science	2	6
Other tertiary courses	13	42
Non-tertiary	4	13
B. Job Position		
Head of library/information centres	10	32
Computer personnel	7	23
Information service personnel	9	29
Project officer	5	16
C. Level of Computer Literacy		
None (or a little)	10	32
Sufficient	7	23
A lot	14	45
D. English Language Proficiency		
Poor	5	16
Average	12	39
Good	14	45

6.2.2 Recommendations for Trainee Selection Procedure for Future Training Courses

One very important contributing factor to the effectiveness of a training programme is the right choice of a target group of trainees. In this respect, a more concerted effort in improving the selection procedure would enhance the programme's effectiveness.

In order to remedy the deficiencies in the selection procedure of the 1987 training programme, the following recommendations are made:

- i) The trainees for Part I or Part II of the training should have characteristics which are close to the "ideal" trainee described in the accompany note (6.2.3). Basically, the trainee for Part I training programme should be someone who is an administrative and/or technical head of the information system project. On the other hand, the trainee for Part II training programme is someone who is an active and major participant in the development and implementation of the computer applications.
- ii) The trainees for Part II of the training programme are assumed to have some experiences with the use of computers in their current work. Hence, applicants who could not fulfill this computer knowledge prerequisite have

EITHER,

to attend the Part I training programme (i.e. if they are also eligible for this training)

OR,

to obtain an introductory course in computer especially microcomputer applications in their own work place.

- iii) Trainees who come from the following types of organisation should be given higher priority than others:-
 - a) Organisations which have just recently obtained IDRC funded projects or about to begin their computer applications.

- b) Organisations which are facing numerous problems (administrative and technical) in developing and implementing computer applications.
- c) Organisations which have used their computer facilities successfully in their stated objectives under the IDRC funded projects but are planning to develop larger and more complex information systems.

In this regard, all trainees are expected to submit a short description of their current and proposed computer applications. See Appendix 6A for a sample form.

- iv) If possible, initial correspondences between the IDRC and the participating organisations should be addressed directly to the head or coordinator of the IDRC funded projects rather than to their administrative department heads. This is to minimise the selection of an inappropriate trainee.



6.2.3 A Note on the "Ideal" Trainees

The ideal candidates for the training programmes are described below:-

For Part I Training Programme:

Candidates with the following characteristics:-

- a) coordinator (or head) of an information centre or head (or deputy head) of a library with special responsibility for automation;
- b) a tertiary education in any field of specialisation but preferably those with training in information or library science;
- c) at least an average level of English language proficiency;
- d) none or at most some work experiences with computer.

The characteristics above are ranked in the order of most important (i.e. criterion "a") to least important (i.e. criterion "d").

For Part II Training Programme

Candidates with the following characteristics:-

- a) the trainee must be a person who is involved directly in the development and implementation of a major (if not all) aspects of the information or library services.
- b) at least some amount of experiences in using computer at the work place;
- c) at least an average level of English language proficiency;
- d) a tertiary education or a post-secondary education with specialised professional training.

The above characteristics are ranked from most important (i.e. "a") to least important (i.e. "d").

6.3.0 Recommendations for Funding to Document Two Case Studies of Computer Applications

Among the recommendations for curriculum changes, an important one is the need to improve the use of case study materials for the various modules (or topics). A common feature for most organisations which have implemented computer applications is that proper documentation does not exist in a useful form (if any). To obtain readily available and good technical documentations from an information centre or a library would therefore be very difficult.

6.3.1 It is therefore recommended that,

- a) the IDRC provide a small research fund (about Canadian \$3,000) to analyse and to document two types of computerised applications:-
 - i) a bibliographic data applications which is commonly developed for a small to medium size information centre;
 - ii) a library automation application(s) of a medium to large library.
- b) the USM trainers (or other qualified researchers) could conduct these documentation studies on behalf of the IDRC.

6.3.2 In order to minimise cost, it is further recommended that these two studies be as follows:-

- i) a complete documentation of the USM library automation applications which uses the DOBIS/LIBIS softwares in a mainframe computer environment;
- ii) a complete documentation of an information centre in Penang (or in Kuala Lumpur or Singapore) in which either CDS/ISIS or MINISIS is used for bibliographic applications and production of documents.

6.3.3 In order to ensure that these documented materials of case studies could be used for the proposed training programmes, these documentation studies must be completed as soon as possible (preferably before April, 1989). These documentations can also be used for similar training programmes in other parts of the world.



6.4.0 Recommendations for Supporting Existing Computer Facilities in USM

At present, USM utilises a variety of computers (i.e. from microcomputer to mainframe computer) and softwares for library applications.

USM has an old HP3000 minicomputer which was donated by the local HP manufacturing company and MINISIS was installed as one of its softwares. However, this computer is unreliable and the regular maintenance cost is too expensive relative to the current purchase price of a new low range HP3000 minicomputer.

Hence, from reliability and cost-effectiveness point of view, it is advantageous for USM not to use this computer for any purpose. Therefore if the proposed training programme need to use the MINISIS software (and hence the HP3000 computer), the following alternative recommendations are proposed:-

EITHER,

- a) that IDRC provides a modest fund to replace the old HP3000 processor with a low range of the new micro HP3000 processor series. (For details, see Appendix 6B).

It is to be noted that the existing terminals and printer can still be used.

OR,

- b) that IDRC provides a fund to enhance another HP3000 computer which is a relatively new machine and does not belong to USM but to a university funded project. This computer is intensively used for a specialised project and there is insufficient resources available to meet the requirements of the proposed training programme. The required enhancement would be,
 - i) to upgrade the primary memory to 4 megabytes from the existing 2 megabytes;
 - ii) to acquire additional secondary storage of about 300 megabytes;
 - iii) to upgrade the facility to support additional 6-8 terminals.

It is pertinent to point out that in a way, USM has and will continue to contribute indirectly a considerable amount of computing resources for the training programme. The USM administration is not likely to invest further in HP3000 minicomputer systems solely for the benefit of the proposed training programme. Furthermore, the availability of additional HP3000 computing facility together with more experiences in using MINISIS, USM could very well be a potential regional training centre for MINISIS training (perhaps together with CDS/ISIS training).

7.0 THE BUDGET

7.1 The 1987 Budget and Expenditure

In the 1987 training programme, a budget of Malaysian \$139,202 was allocated by IDRC, in which only \$114,844 was actually spent. The variance or surplus of \$24,359 was mainly accounted for by the following items: (see Table 7.1, column A and B)

- a) Per diem for trainees - \$15,635
- b) Lecturers' emolument - \$ 4,188
- c) Air fares - \$ 4,424

For convenience of discussion, the actual expenditure of the 1987 training programme could be divided into two major components:

- a) the fixed cost items
- b) the variable cost items

The variable cost items were those items that were dependent on the number of trainees attending the course.

7.1.1 The major features of the expenditure were:-

- a) The fixed cost and the variable cost items constituted about 20% and 80% respectively. This ratio of the two types of cost basically reflected the low overhead cost of the training programme in which USM had indirectly subsidized the programme;
- b) Using the estimated total cost, the average total cost for each trainee per week was \$1149.00;
- c) the average airfare per trainee was \$995.00;
- d) the living allowance for each trainee per week was \$846.00;
- e) the cost per lecture or contact hour was \$100.00.

Table 7.1: Budgeted and Actual Expenditure for the 1987 Training Programme and the Proposed Budget

Items	Expenditure		
	Budgeted (1987)	Actual ^a (1987)	Proposed
	(A)	(B)	(C)
A. <u>Fixed Cost Items</u>	(33,250)	(23,774)	(26,500)
i) Emoluments			
. Lecturers	17,500	13,313	15,000
. Other supporting staff	8,250	5,211	6,000
ii) Office supplies and communications	4,000	4,250	4,500
iii) Softwares	2,500	-	-
iv) Hospitality	1,000	1,000	1,000
B. <u>Variable Cost Items</u>	(105,952)	(91,070)	(94,000)
i) Airfares for trainees	25,312	20,888	23,000
ii) Per diem for trainees	80,640	70,182	71,000
Total	139,202	114,844 ^b	120,500

Note: ^a Five trainees were paid separately for their airfares and per diem and these costs are not included in this budget.

^b The total expenditure which includes the above items in (a), is estimated to be \$124,049.00.

7.2 The Proposed Budget

The rationale behind the proposed budget for future training programme does not differ very much from the 1987 programme (see Table 7.1, column c). The only major difference is that the number of contact hours (i.e. between trainers or lecturers and trainees) has been increased from 133 hours (in 1987) to 142 hours. Minor adjustments have also been made to other items. Based on these considerations, the proposed budget for future training programme is about \$120,500, assuming that the number and type of trainees would be the same as in the 1987 programme. In particular, trainees from the Indian subcontinent and Singapore will be financially supported separately.

- 7.2.1 It is also to be noted that this proposed budget does not include the cost of having the extra training infrastructure as described in Chapter 6. Furthermore, it is envisaged that an extra item of expenditure may be required in the form of an invited lecturer for one or more topics in the future training programme. This is because an invited external lecturer with considerable experiences in library automation may enrich the overall quality of the training.

8.0 CONCLUSIONS

This evaluation study, according to the Singapore IDRC officers, is the first one which has been commissioned by IDRC to evaluate their own training programmes. Since there were no precedents for such a study, the consultants had worked out their own research strategy and constructed and adapted some instruments which were considered to be appropriate to the terms of reference.

In general, the evaluation study took much more effort than was originally estimated. Nevertheless, the cost of the study is still within the budget.

The field trips for the purpose on-site evaluation were extremely beneficial to the consultants because many important and complex issues were able to be identified in this way.

Finally, the research strategy and its associated instruments may be used for future evaluation studies of this nature, perhaps with certain modifications.

APPENDIX 3A: FIELD VISITS TO ASEAN COUNTRIES

A. Participants of the Training Programme

11 April 1988

1. Participant: Mr. Shahidan Mohd. Noh

Immediate Officer-in-Charge: Ms. Kong How Kooi, Librarian

Forest Research Institute,
Kuala Lumpur, Malaysia

18 April 1988

2. Participant: Ms. Rachaneepan Tangchawal

Immediate Officer-in-Charge: Mr. Sajja Boonthittanout, Head,
Foreign and Technical Relations

Information & Statistics Centre
Technical & Foreign Relations
Ministry of Science, Technology & Energy
Bangkok, Thailand

3. Participant: Ms. Mekdumrongruks Napaporn

Related Officer: Ms. Srisunan Narintharangkura

Southeast Asian Fisheries
Development Centre (SEAFDEC), Bangkok

19 April 1988

4. Participant: Ms. Piboosin Watanapongse

Main Library
Kasetsart University, Bangkok

21 April 1988

5. Participants: Mrs. Marubeth C. Ortega
Mr. Leo P. Cababasay

SEAFDEC, Iloilo City, Philippines

6. Participant: Mr. Melchor F. Cichon
Immediate Officer-in-Charge: Ms. Teresita Ledesma, Librarian

University of the Philippines in Visayas Library
Iloilo City, Philippines

22 April 1988

7. Participant: Ms. Prisila G. Tan

Immediate Officer-in-Charge: Mr. Robert Jara, Project Manager

National Mapping & Resource
Information Authority (NAMRIA)
Quezon City, Philippines

2 May 1988

8. Participants: Ms. Hernandono
Ms. Nurasih U. Suwahyono

Pusat Dokumentasi & Informasi
Ilmiah (PDII), Jakarta, Indonesia

9. Participant: Ms. Lefina K. Dotulung

Immediate Officer-in-Charge: Mr. Rustam Ibrahim, Deputy Director

Institute for Social and Economic Research,
Education and Information (LP3LES),
Jakarta

3 May 1988

10. Participant: Mrs. Soetitah Siwi Soedjo

BIOTROP, Bogor, Indonesia

4 May 1988

11. Participants: Mr. George Tan Kia Jew
Ms. Elsie Bong

Asian Mass Communication Information Centre, (AMIC),
Singapore

B. Potential Participants from IDRC Funded Projects

- 14 April 1988 Mr. Martin Khor and Staff
Consumers' Association of Penang
Penang, Malaysia
- 19 April 1988 Mr. Jongchana Sitalapruk

Provincial Waterworks Authority
Bangkhen, Bangkok, Thailand
(Project: National Water Supply and Sanitation
Information Centre)
- 22 April 1988 Dr. Gomez and Staff

Marine Sciences Institute.
University of the Philippines,
Quezon City, Philippines
(Project: Seaweed Information Philippines)
- 2 May 1988 Mr. Ajoeliarto and Staff

Direktorat CIPTA KARYA
Ministry of Public Works
Jakarta
(Project: Water and Sanitation Information
Network, Indonesia)

One other institution with an IDRC-funded project was unable to schedule a meeting with the consultants.

APPENDIX 3B: METHOD IN RECORDING WORK PERFORMANCE DATA

Trainees: _____ Superior: _____

a. Existing Computer Facilities

Hardware: _____
Software: _____
Special Application Softwares (Library) _____

b. Expected Computer Facilities

c. Trainee's Role in Library Automation

Task: _____

d. Specific competencies or knowledge which had been acquired from the training and is being used in current tasks:

e. Assessment of benefits from the training programme by trainee's superior.

f. Description of Bibliographic Databases

- . Type _____
- . No. of Volume _____
- . No. of Titles _____
- . Others _____

APPENDIX 3C: TOPIC: TRAINEES' PERCEPTION OF THE COURSE OBJECTIVES

Listed below are 12 statements relating to the learning feasibility of the course objectives employed in this course. To the right of each statement is a six-level rating scale ranging from "strongly agree" (1) to "strongly disagree" (6).

[Please read each statement carefully and determine to what extent it applies to you. That is, how strongly you agree or disagree with the statements as applied to you as a trainee in this course.] Following are the codes for each level of agreement or disagreement.

- 1 strongly agree (SA)
- 2 agree (A)
- 3 tend to agree (TA)
- 4 tend to disagree (TD)
- 5 disagree (D)
- 6 strongly disagree (SD)

	<u>Agree</u>		<u>Disagree</u>			
	SA	A	TA	TD	D	SD
	—	—	—	—	—	—
1. The list of objectives tells me exactly what I will be able to do at the successful completion of the course.	1	2	3	4	5	6
2. The objectives provide a means for me to periodically evaluate my own progress.	1	2	3	4	5	6
3. As I read the stated objectives, I do not understand what I am expected to accomplish.	1	2	3	4	5	6
4. Provisions are made for my accomplishment of the objectives.	1	2	3	4	5	6
5. How I am to achieve each objective is not clear.	1	2	3	4	5	6
6. By reading the objectives, I know what I am expected to do in the course.	1	2	3	4	5	6
7. The objectives do not help me to understand fully the course content.	1	2	3	4	5	6
8. I find that the course objectives indicate how much I must try to understand the major concepts or techniques which were introduced in the class.	1	2	3	4	5	6
9. I do not feel confident that I am meeting the class requirements even though I can do what is stated in the objectives.	1	2	3	4	5	6

APPENDIX 3D: TOPIC: A SCALE TO STUDY ATTITUDES TOWARDS THE TRAINING COURSE

If you agree with statement (feel that it is TRUE statement), please tick (/) in the "T" box. If you disagree (feel that it is a FALSE statement), please tick (/) in the "F" box. If you simply cannot decide about a statement, you tick (/) in the "U" box.

1. This course should be considered one of the most valuable courses which I have ever attended.	T	F	U
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. This course encourages the development of systematic thinking.	T	F	U
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. My likes for this course outweigh my dislikes.	T	F	U
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. The material covered by this course is uninteresting.	T	F	U
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. The time that I spend in this course is completely wasted.	T	F	U
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Only a few of the trainees enjoy this course.	T	F	U
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. This course helps the trainees to feel that he/she is attending a professional training programme.	T	F	U
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. This course is of some value in promoting social interactions among information or library services personnel.	T	F	U
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. The value of this course is over-estimated by most of my fellow trainees.	T	F	U
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. This course is an important part of the professional training for trainees like us.	T	F	U
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

APPENDIX 3E: TOPIC: EVALUATION OF THE INSTRUCTIONAL PRODUCT

The internal characteristics of the instructional materials and activities in the 1987 training course are evaluated in terms of desired versus actual (i.e. 1987 experiences) instructional features. In the following checklist, please indicate the actual inclusion of instructional attributes as well as what is most desired.

In responding to each statement, please consider both (a) and (b):

- (a) How much of the characteristics was included within the scope of your instructional product during the 1987 training course?
- (b) How much of the characteristics do you think should be included within the scope of your instructional product?

* Please use the following codes:

(Minimum)	1	2	3	4	5	(Maximum)
	very	little	just	much	very	
	little		enough		much	
	(VL)	(L)	(JE)	(M)	(VM)	

* If you don't know how to response to certain questions or you find them to be not applicable to you as a trainer, please use the code DK (don't know) or NA (not applicable).

		VL	L	JE	M	VM
		—	—	—	—	—
1. The provision of specific trainee <u>objectives</u> of what the instructional product teaches.	(a)	1	2	3	4	5
	(b)	1	2	3	4	5
2. A statement of the skill and knowledge <u>pre-requisites</u> for entry into the product.	(a)	1	2	3	4	5
	(b)	1	2	3	4	5
3. A provision for a well-prepared trainee to enter the course at some place other than the beginning.	(a)	1	2	3	4	5
	(b)	1	2	3	4	5
4. An effective <u>orientation</u> of the trainee to the entire training courses.	(a)	1	2	3	4	5
	(b)	1	2	3	4	5
5. Use of <u>audio-visual materials</u> appropriate for the intended trainee's population.	(a)	1	2	3	4	5
	(b)	1	2	3	4	5
6. <u>Content</u> that is complete and up-to-date.	(a)	1	2	3	4	5
	(b)	1	2	3	4	5
7. The learning of new knowledge followed by <u>practical exercises</u> .	(a)	1	2	3	4	5
	(b)	1	2	3	4	5
8. Use of <u>examples and illustrations</u> drawn from activities related to interests of intended trainees.	(a)	1	2	3	4	5
	(b)	1	2	3	4	5

APPENDIX 3F: TOPIC: IDENTIFYING THE INSTRUCTIONAL OBJECTIVES OF THE COURSE

As you have been a trainer/instructor in the previous training course, I would like to find out the important aspects of the instructional objectives of the course.

1. Are decisions about what to teach made on the basis of detailed discussions among the trainers and or coordinator?

YES _____ NO _____

2. Are detailed analyses made of performance (of trainees) to identify the type of knowledges and skills (i.e. enabling objectives) which are required for performance?

YES _____ NO _____

3. Are the course objectives consistent with the purpose or rationale of the training programme?

YES _____ NO _____ NOT SURE _____

4. Are pre-requisite knowledge and skills completely and clearly specified?

YES _____ NO _____

5. In general, how satisfied are you with the objectives in your training course?

very satisfied	satisfied	unsatisfied	very unsatisfied
1	2	3	4
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

6. How effective do you consider the course objectives as a means for formulating the sequences of class instructions?

very effective	somewhat effective	somewhat ineffective	very ineffective	not sure
1	2	3	4	5
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments: _____

APPENDIX 3G: TOPIC: PROVISION FOR VARIABILITY IN THE TRAINING

One important component of a training programme is the provision for variability for student learning. These provisions may be evaluated in terms of described versus actual instructional features. The following is a checklist of the various statements of this instructional variability.

In answering each of these statements, you must consider both actual (a) and desired (d).

- (a) How much of the variability characteristic was actually included within the scope of the instructional product during the last training?
- (d) How much of the variability characteristics do you think should be included within the scope of the instructional product?

Please use the following code:

(Minimum)	1	2	3	4	5	(Maximum)
	very	little	just	much	very	
	little		enough		much	
	(VL)	(L)	(JE)	(M)	(VM)	

If you are not sure of the response to some of these questions, please write don't know (DK) or not applicable (NA).

		VL	L	JE	M	VM
		—	—	—	—	—
1. Among trainees, at the <u>rate</u> at which they are able to achieve a desired degree of mastery.	(a)	1	2	3	4	5
	(d)	1	2	3	4	5
2. Among trainees, in the computer <u>skills</u> that they possess prior to their training.	(a)	1	2	3	4	5
	(d)	1	2	3	4	5
3. Among trainees, in their <u>English</u> language proficiency.	(a)	1	2	3	4	5
	(d)	1	2	3	4	5
4. In <u>interactions</u> among trainees, between trainees and trainers, and between trainees and materials.	(a)	1	2	3	4	5
	(d)	1	2	3	4	5
5. In <u>instructional settings</u> , in which interactions take place, content can be mastered, and behaviours can be practiced.	(a)	1	2	3	4	5
	(d)	1	2	3	4	5
6. Among learners, in their knowledge, understanding, and attitude development along a continuum ranging from simple perception to highest levels of understanding.	(a)	1	2	3	4	5
	(d)	1	2	3	4	5

APPENDIX 3H: COURSE EVALUATION SHEET FOR TRAINER

Course Name: _____

Note: You may tick (/) more than one answer.

A. Overview of the Course

In general, this part of the training programme is

Acceptable. ☐

Not related to the training programme's objective(s). ☐

Needs to be phrased in simpler language for the trainees. ☐

B. Course Objectives

The objectives of this course are:-

☐ too general ☐ too specific

☐ appropriate ☐ inappropriate

☐ acceptable ☐ unacceptable

☐ not clearly communicated at the beginning of the training

☐ needs revision (please describe): _____

C. Instructional Events

c.1 The teaching activities are not related to the course objective(s). ☐

c.2 The presentation of the course is too difficult for trainees. ☐

c.3 The text book or reading materials are too difficult. ☐

c.4 There is not enough reference to reading materials. ☐

c.5 The class assignments are too easy. ☐

c.6 There should be more self-study breaks. ☐

D. Materials, Equipment and Instructional Aids

d.1 The audio-visual shows should be used as much as possible. ☐

d.2 The overhead projector should be used more frequently. ☐

E. Trainees Activities

e.1 The vendor's demonstration on integrated library software is very instructive ☐

e.2 Simulated exercises should be used. ☐

e.3 More reading is required. ☐

F. General Evaluation

f.1 The units of teaching activities and the course objectives are not sequenced correctly ☐

f.2 Overall, the course is acceptable as structured. ☐

f.3 Overall, the course is acceptable with minor revision as follows: ☐

f.4 Needs to include more hands-on practice. ☐

f.5 An average trainee requires more time to complete this course. ☐

G. [For instructors in the system study project only]. The System Study Project is

g.1

g.2

g.3

g.4

g.1 Unrelated to the course objective(s). ☐

g.2 Too difficult for the trainees. ☐

g.3 Appropriate and acceptable. ☐

g.4 Not liked by the trainees. ☐

APPENDIX 3I: INSTRUMENTS FOR PERFORMANCE ASSESSMENT IN THE TRAINING PROGRAMME

You have been an instructor for part of the training programme, and I would like to know whether you have incorporated any test to evaluate the performance of the trainees.

1. Is there a need to evaluate the performance of the trainees?

YES ☐

NO ☐

Explain: _____

2A. Did you use any performance testing?

YES ☐



NO ☐



→ (Go to Q5)
Why not?

2B. What is the purpose of the test?

3. List of performance testing used

a. Paper-and-pencil assessment

- selection type (e.g. multiple choice)
- supply type
 - . short answer items
 - . essay questions
 - . design problems
 - . written reports
 - . others (_____)

b. Simulations

- written simulations
- role playing
- case study

c. Oral assessment

d. Observational assessment

e. Others: _____

4. Reasons for choosing or not choosing one (or more) performance testing technique?

5. Feasibility of adopting one (or more) of the performance test for future courses.

Explain: _____

APPENDIX 4A: FREQUENCY OF RESPONSES ON TRAINEES' REACTION TOWARDS INSTRUCTION

Now that you have completed the course, please complete this form. The majority of items require only a check mark (/) for your answer. Please respond to all items as accurately as possible.

1. Which term(s) best describe the instructional activities in this course?

1.1	very easy	quite easy	quite hard	very hard
	<input type="checkbox"/>	<input type="checkbox"/> 3	<input type="checkbox"/> 8	<input type="checkbox"/>
1.2	very boring	quite boring	quite interesting	very interesting
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> 6	<input type="checkbox"/> 5
1.3	Too much reading	sufficient reading	too little reading	
	<input type="checkbox"/> 1	<input type="checkbox"/> 8	<input type="checkbox"/> 2	
1.4	too much theory	adequate theory and practice	too much practical work	
	<input type="checkbox"/> 2	<input type="checkbox"/> 8	<input type="checkbox"/> 1	

2. Did you receive any HELP during the course?

YES (go to question 3)	NO (go to question 4)
<input type="checkbox"/> 11	<input type="checkbox"/>

3. Why did you need HELP?

☐ ₁ The material was too difficult.

☐ ₂ No explanation was given as to what was to be learned.

☐ ₁ The directions were confusing and vague.

☐ ₆ The practical activities were too difficult.

☐ ₁ Help was needed to locate reading materials, aids, etc.

☐ ₇ Other (please describe):

4. Did you have any problems related to:

☐ ₂ Following directions in the lecture?

☐ ₂ Understanding diagrams?

☐ The use of audio-visuals?

☐ Obtaining materials or equipment?

APPENDIX 4B: FREQUENCY OF RESPONSES ON TRAINEES' COURSE EVALUATION

Please rate the following items by ticking (/) the appropriate boxes. The notations to be used for most of the items are:-

E = Excellent VG = Very Good G = Good F = Fair
P = Poor NA = Not Applicable or Don't Know

1.5.1 Course Content

	E	VG	G	F	P	NA
a. Selection of topics for my needs	<input type="checkbox"/> 2	<input type="checkbox"/> 7	<input type="checkbox"/> 3	<input type="checkbox"/> 1	<input type="checkbox"/>	<input type="checkbox"/>
b. Sequential order of topic presentation	<input type="checkbox"/> 1	<input type="checkbox"/> 4	<input type="checkbox"/> 7	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> 1
c. Technical accuracy of the information presented	<input type="checkbox"/> 2	<input type="checkbox"/> 4	<input type="checkbox"/> 7	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Level of the course	<input type="checkbox"/> too advanced	<input type="checkbox"/> somewhat advanced 8	<input type="checkbox"/> just right 4	<input type="checkbox"/> somewhat basic 1	<input type="checkbox"/> too basic	
e. Amount of material covered	<input type="checkbox"/> far too much 1	<input type="checkbox"/> too much 8	<input type="checkbox"/> just right 4	<input type="checkbox"/> too little	<input type="checkbox"/> far too little	

1.5.2 Labs/Exercises

	E	VG	G	F	P	NA
a. Lab/exercises as reinforcement of skills taught in class	<input type="checkbox"/> 4	<input type="checkbox"/> 6	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/>	<input type="checkbox"/>
b. Time allotted to complete labs/exercises	<input type="checkbox"/>	<input type="checkbox"/> 2	<input type="checkbox"/> 4	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/>
c. Performance of equipment for labs/exercises	<input type="checkbox"/> 1	<input type="checkbox"/> 7	<input type="checkbox"/> 4	<input type="checkbox"/> 1	<input type="checkbox"/>	<input type="checkbox"/>
d. Extent to which labs/exercises held my interest	<input type="checkbox"/> 2	<input type="checkbox"/> 7	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/>	<input type="checkbox"/>

1.5.3 Instructor

	E	VG	G	F	P	NA
a. Instructor's knowledge level	<input type="text"/> 5	<input type="text"/> 8	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
b. Instructor's preparation to teach this course	<input type="text"/> 5	<input type="text"/> 6	<input type="text"/> 2	<input type="text"/>	<input type="text"/>	<input type="text"/>
c. Instructor's thoroughness in covering topics	<input type="text"/> 4	<input type="text"/> 7	<input type="text"/> 1	<input type="text"/> 1	<input type="text"/>	<input type="text"/>
d. Instructor's clarity of presentation	<input type="text"/> 2	<input type="text"/> 8	<input type="text"/> 2	<input type="text"/> 1	<input type="text"/>	<input type="text"/>
e. Instructor's use of relevant examples	<input type="text"/> 3	<input type="text"/> 5	<input type="text"/> 4	<input type="text"/> 1	<input type="text"/>	<input type="text"/>
f. Instructor's willingness to provide needed assistance	<input type="text"/> 4	<input type="text"/> 7	<input type="text"/> 1	<input type="text"/>	<input type="text"/>	<input type="text"/>
g. Instructor's delivery of the course	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
	<input type="text"/> too fast 1	<input type="text"/> somewhat fast 6	<input type="text"/> just right 6	<input type="text"/> somewhat slow	<input type="text"/> too slow	

1.5.4 Training Facility

	E	VG	G	F	P	NA
a. Registration process	<input type="text"/> 7	<input type="text"/> 6	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
b. Helpfulness of training facility personnel	<input type="text"/> 10	<input type="text"/> 3	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
c. Classroom facility as a learning environment	<input type="text"/> 5	<input type="text"/> 4	<input type="text"/> 4	<input type="text"/>	<input type="text"/>	<input type="text"/>

1.5.5 Overall

	E	VG	G	F	P	NA
a. How do you rate this course in meeting your expectations?	<div><div></div><div>2</div></div>	<div><div></div><div>6</div></div>	<div><div></div><div>3</div></div>	<div><div></div><div>9</div></div>	<div><div></div><div></div></div>	<div><div></div><div></div></div>
b. What is your overall evaluation for this course?	<div><div></div><div>2</div></div>	<div><div></div><div>3</div></div>	<div><div></div><div>7</div></div>	<div><div></div><div></div></div>	<div><div></div><div></div></div>	<div><div></div><div></div></div>
c. Would you recommend this course to others?						
<div><div></div><div>12</div></div> Yes	<div><div></div><div></div></div> No (Please comment)					

APPENDIX 4C: ADDITIONAL COMMENTS BY TRAINEES

A. Additional Comments on How Their Instructors Might Improve the Training Course

1. "I am happy with the course."
2. "New topics should not begin until the current topic has been understood by most if not all of the trainees, otherwise some of them get confused."
3. "Too many topics in a week. CDS/ISIS topic needs more time, and more time for practical work."
4. "Divide the topics in proper period of time; give more explanations, case studies, practices and above all, more time."
5. "More time for topics discussed especially on use of softwares like CDS/ISIS or INMAGIC."
6. "More rapport with the trainees; perhaps too many trainees."
7. "The instructors are the best!"
8. "Should provide with more examples."
9. "More practicals and more case studies."
10. "Trainers were good, but sometimes they talked too fast might be a problem to some trainees."

B. Additional Comments on Course Content

1. "One or two of the topics were very interesting but we didn't go deeper into them because of limited time."
2. "Far too much material to be covered in a limited time."
3. "More assignments to be given to individual rather than group."
4. "Too many assignments."
5. "There was an overlapping of topics e.g. on networking and impact of information technology."
6. "More time should be allocated for specific applications of library operations using CDS/ISIS."

7. "The course topics should be arranged more properly to meet the different level of trainees' knowledge. The topics should be divided clearly and more time given to trainees to understand them."
8. "Some case studies are not relevant to the library or information science trainees."

C. Additional Comments on Topics to be Included or Excluded in Future Training Course

1. "More intensive coverage of CDS/ISIS and dBase topics and more case studies."
2. "Should have follow-up courses, perhaps for more experienced library personnel only so that they will be able to keep up with the latest development in library automation."
3. "Lengthen the sessions on systems approach, more topics on management aspects of networking, and some topics on cost-benefit analysis in particular and information systems evaluation in general. Perhaps, a separate training course for managers on above topics could be arranged."
4. "A topic on recent technological development (e.g. softwares) for library and information science operations and management."

APPENDIX 6A:

A SAMPLE FORM ON THE DESCRIPTION OF THE EXISTING AND PROPOSED COMPUTER APPLICATIONS IN THE TRAINEES' ORGANISATIONS

1. List and describe briefly the computer facilities currently available in your organisation

	<u>Unit</u>	<u>Type</u>
a. Hardware:		
. microcomputer		_____

. minicomputer (or mainframe)		_____

b. Software:		
. database management		_____

. library/bibliographic software		_____

2. List and describe briefly the current and future effort in developing computer applications:

a. Current application(s)	

b. Future application(s)	

3. List and describe briefly the major problems you or your colleagues have encountered in developing computer applications for your information centre or library.

4. Please enclosed a sample of the outputs of your computer applications which you have developed or implemented (if any).
5. Please state briefly what you expect to gain from attending this training programme and how this would benefit your organisation.

APPENDIX 6B: HP3000 COMPUTER SYSTEM FOR THE TRAINING PROGRAMME

The price of a new micro HP3000LX, minicomputer system is about (Malaysian) \$39,000.00 to \$60,000.00 for a basic configuration which includes,

- . System processor
- . 2-4 megabytes main memory
- . 81-152 megabytes disc mechanism
- . 67 megabytes cartridge tape mechanism
- . 1 HP 700/92 terminal and cable
- . Operating system and TURBO IMAGE softwares

The existing terminals and printer of the old HP3000 computer can still be used.